

Application No. 09/901433
Examiner: E.M. Johnson
Art Unit: 1754

PATENT
M&G No. 12109.0045US01

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application. No new matter has been added.

Listing of Claims:

1. (Currently Amended) A process for treating an exhaust gas let out from CVD system for forming a silicon film using halogenosilane gas, the process comprising the steps of:
subjecting ~~of an unreacted raw gas and intermediate products included in the exhaust gas~~ to a partial decomposition or conversion reaction treatment using a heated transition metal reacting agent ~~for thermal-swing between room temperature and 500°C;~~
~~separating and recovering the obtained halogenosilane gas and hydrogen chloride gas;~~
and
returning at least one of the halogenosilane gas and hydrogen chloride gas to a raw gas source for the CVD system.
2. (Currently Amended) A process for treating an exhaust gas let out from CVD system for forming a silicon film using halogenosilane gas, the process comprising the steps of:
subjecting an unreacted raw gas and intermediate products included in the exhaust gas to a full decomposition or conversion reaction treatment using a ~~transition metal~~ an iron reacting agent for thermal-swing between room temperature and 500°C; and
~~separating and recovering~~ contacting the obtained hydrogen chloride gas of the decomposed product with water; and
recovering the hydrochloric acid water.
3. (Withdrawn) An apparatus for treating an exhaust gas let out from CVD system for forming a silicon film using halogenosilane gas, the apparatus comprising:
decomposition means for subjecting a transition metal reacting agent to thermal-swing between room temperature and 500°C to partially decompose an unreacted raw gas and intermediate products contained in the exhaust gas;

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separation reaction means for separating the halogenosilane gas and hydrogen chloride from the exhaust gas let out from said decomposition means;

vapor-liquid contacting means for bring the hydrogen chloride separated by said separation reaction means into contact with water; and

gas recovery means for reusing the halogenosilane.

4. (Withdrawn) An apparatus for treating an exhaust gas let out from CVD system for forming a silicon film using halogenosilane gas, the apparatus comprising:

decomposition means for subjecting a transition metal reacting agent for thermal-swing between room temperature and 500°C to entirely decompose an unreacted raw gas and intermediate products contained in the exhaust gas; and

vapor-liquid contacting means for bring the hydrogen chloride separated by said separation reaction means into contact with water.